

## CLAIMS

What is claimed is:

1. A method of changing the dynamic range of an original image to more closely  
2 match the dynamic range of the medium used for a reproduction, comprising:  
preserving small contrast differences between different areas of the  
4 original image;  
limiting the maximum contrast differences between different areas of  
6 the original image.
2. The method of claim 1 where a look up table is used to preserve the small contrast  
2 differences while limiting the maximum contrast differences in the original image.
3. The method of claim 1 where the maximum contrast difference in the original  
2 image is limited to a ratio of 4-to-1 or less.
4. The method of claim 1 where the maximum contrast difference in the original  
2 image is limited to a ratio of greater than 4-to-1.
5. The method of claim 1 where the small contrast differences are preserved with a  
2 slope of one-to-one.
6. The method of claim 1 where the small contrast differences are enhanced by using  
2 a slope greater than one-to-one.

7. The method of claim 5 where the one-to-one slope passes through the origin.
8. The method of claim 1 where the small contrast differences are reduced by using a  
2 slope smaller than one-to-one.
9. A method of improving an apparatus that sequentially determines a comparative  
2 measure of the radiance information for providing a new intermediate value of  
each such measure in response to the product of a ratio function of the radiance  
4 information associated with each of a first named segmental area and with each of  
a second named segmental area and of a like measure previously determined for  
6 the second named segmental area, and determining a sequentially new value of  
each said measure in response to a selectively weighted averaging of the new  
8 intermediate value and a like measure previously determined for the first named  
segmental area, comprising:  
10                   preserving the small contrast differences of the ratio function;  
                      limiting the maximum contrast differences of the ratio function.
10. The method of claim 9 where a look up table is used to preserve the small contrast  
2 differences while limiting the maximum contrast differences in the original image.
11. The method of claim 9 where the maximum contrast difference in the original  
2 image is limited to a ratio of 4-to-1 or less.
12. The method of claim 9 where the maximum contrast difference in the original  
2 image is limited to a ratio of greater than 4-to-1.

13. The method of claim 9 where the small contrast differences are preserved with a  
2 slope of one-to-one.

14. The method of claim 9 where the small contrast differences are enhanced using a  
2 slope greater than one-to-one.

15. The method of claim 13 where the one-to-one slope passes through the origin.

16. The method of claim 9 where the small contrast differences are reduced using a  
2 slope smaller than one-to-one.